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#### ANALYTICAL RESULTS

Prepared for:

Chevron 5000 State Route 128 HOOVEN OH 45033

#### Prepared by:

Lancaster Laboratories 2425 New Holland Pike Lancaster, PA 17605-2425

December 22, 2009

Project: Barrier Monitoring Network 4Q-2009

Samples arrived at the laboratory on Wednesday, December 09, 2009. The PO# for this group is 0015039270 and the release number is 50008931. The group number for this submittal is 1174348.

Client Sample Description	<u>Lancaster Labs (LLI) #</u>
MW-135D,120809 Grab Water	5858865
MW-135D,120809 Filtered Grab Water	5858866
MW-135I,120809 Grab Water	5858867
MW-135I,120809 Filtered Grab Water	5858868
MW-135S,120809 Grab Water	5858869
MW-135S,120809 Filtered Grab Water	5858870
BMW-1D,120809 Grab Water	5858871
BMW-1D,120809 Filtered Grab Water	5858872
BMW-1I,120809 Grab Water	5858873
BMW-1I,120809 Filtered Grab Water	5858874
BMW-1S,120809 Grab Water	5858875
BMW-1S,120809 Filtered Grab Water	5858876
MW-136D,120809 Grab Water	5858877
MW-136D,120809 Filtered Grab Water	5858878
Trip Blank NA Water	5858879

The specific methodologies used in obtaining the enclosed analytical results are indicated on the Laboratory Sample Analysis Record.

ELECTRONIC Trihydro Corporation Attn: Trihydro Database





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COPY TO ELECTRONIC COPY TO

Trihydro Corporation

Attn: Tim Gunn

ELECTRONIC COPY TO

Trihydro Corporation

Attn: Matthew Mitchell

Questions? Contact your Client Services Representative Katherine A Klinefelter at (717) 656-2300

Respectfully Submitted,

Susan M. Goshert Group Leader

Susan M Goshert



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Sample Description: MW-135D,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858865 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 10:37 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

B135D

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846	8260B	ug/l	ug/l	
06291	Benzene		71-43-2	N.D.	0.5	1
06291	Chlorobenzene		108-90-7	N.D.	0.8	1
06291	Ethylbenzene		100-41-4	N.D.	0.8	1
06291	Toluene		108-88-3	N.D.	0.7	1
06291	Xylene (Total)		1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009 06:34	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009 06:34	Holly Berry	1



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Sample Description: MW-135D,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858866 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 10:37 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

F135D

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metal	s Dissolved	SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009 03:58	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009 07:32	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009 15:21	James L Mertz	1
	rec)						



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Sample Description: MW-135I,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858867 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 11:50 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

B135I

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846 8260B	ug/l	ug/l	
06291	Benzene	71-43-2	N.D.	0.5	1
06291	Chlorobenzene	108-90-7	N.D.	0.8	1
06291	Ethylbenzene	100-41-4	N.D.	0.8	1
06291	Toluene	108-88-3	N.D.	0.7	1
06291	Xylene (Total)	1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009 06:55	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009 06:55	Holly Berry	1



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Sample Description: MW-135I,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858868 LLI Group # 1174348

ОН

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 11:50 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

F135I

CAT No.	Analysis Name	CAS Numb	As Received er Result	As Received Method Detection Limit	Dilution Factor
Metal	s Dissolved	SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-	2 N.D.	0.0072	1
07055	Lead	7439-92-	1 N.D.	0.0069	1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Tim	ne .		Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009	04:02	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009	07:36	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009	15:21	James L Mertz	1
	real							



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Sample Description: MW-135S,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858869 LLI Group # 1174348

ОН

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 12:40 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

B135S

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846	8260B	ug/l	ug/l	
06291	Benzene		71-43-2	N.D.	0.5	1
06291	Chlorobenzene		108-90-7	N.D.	0.8	1
06291	Ethylbenzene		100-41-4	N.D.	0.8	1
06291	Toluene		108-88-3	N.D.	0.7	1
06291	Xylene (Total)		1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009 07:15	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009 07:15	Holly Berry	1



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Sample Description: MW-135S,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858870 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 12:40 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

F135S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metal	s Dissolved	SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009 04	:10 John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009 07	:46 Joanne M Gates	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009 15	:21 James L Mertz	1
	real						



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Sample Description: BMW-1D,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858871 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 13:25 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

BMW1D

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846	8260B	ug/l	ug/l	
06291	Benzene		71-43-2	N.D.	0.5	1
06291	Chlorobenzene		108-90-7	N.D.	0.8	1
06291	Ethylbenzene		100-41-4	N.D.	0.8	1
06291	Toluene		108-88-3	N.D.	0.7	1
06291	Xylene (Total)		1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009 07:38	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009 07:38	Holly Berry	1



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Sample Description: BMW-1D,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858872 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 13:25 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128 Discard: 02/21/2010

HOOVEN OH 45033

FMW1D

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metal	s Dissolved	SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009 04:13	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009 07:50	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009 15:21	James L Mertz	1
	rec)						



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Sample Description: BMW-1I,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858873 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 14:15 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

BMW1I

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846	8260B	ug/l	ug/l	
06291	Benzene		71-43-2	N.D.	0.5	1
06291	Chlorobenzene		108-90-7	N.D.	0.8	1
06291	Ethylbenzene		100-41-4	N.D.	0.8	1
06291	Toluene		108-88-3	N.D.	0.7	1
06291	Xylene (Total)		1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009 07:59	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009 07:59	Holly Berry	1



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Sample Description: BMW-1I,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858874 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 14:15 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

FMW1I

Dilution Factor
1
1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Time	е		Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009 0	04:16	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009 0	07:53	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009 1	15:21	James L Mertz	1
	real							



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Sample Description: BMW-1S,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858875 LLI Group # 1174348

ОН

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 15:00 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

BMW1S

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846	8260B	ug/l	ug/l	
06291	Benzene		71-43-2	N.D.	0.5	1
06291	Chlorobenzene		108-90-7	N.D.	0.8	1
06291	Ethylbenzene		100-41-4	N.D.	0.8	1
06291	Toluene		108-88-3	N.D.	0.7	1
06291	Xylene (Total)		1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT No.	Analysis Name	Method	Trial#	Batch#	Analysis Date and Ti	me	Analyst	Dilution Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009	08:20	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009	08:20	Holly Berry	1



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Sample Description: BMW-1S,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858876 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 15:00 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

FMW1S

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metal	s Dissolved	SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Time	2		Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009 0	4:19	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009 0	7:57	Joanne M Gates	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009 1	5:21	James L Mertz	1
	rec)							



As Received

Method

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Sample Description: MW-136D,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858877 LLI Group # 1174348

OH

Dilution

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 17:00 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

CAS Number

Discard: 02/21/2010 HOOVEN OH 45033

As Received

B136D

Analysis Name

CAT

No.	Analysis Name		CAS Numb	per Result		Method Detection Limit	Factor
GC/MS	Volatiles	SW-846	8260B	ug/l		ug/l	
06291	Benzene		71-43-2	N.D.		0.5	1
06291	Chlorobenzene		108-90-7	7 N.D.		0.8	1
06291	Ethylbenzene		100-41-4	N.D.		0.8	1
	Toluene		108-88-3	N.D.		0.7	1
06291	Xylene (Total)		1330-20-	-7 N.D.		0.8	1
GC Mi	scellaneous	SW-846	8000B	ug/l		ug/l	
08097	CO2 by Headspace		124-38-9	8,700	J	4,000	1
GC Mi	scellaneous	SW-846	8015B mod	ified ug/l		ug/l	
	Methane		74-82-8	N.D.		10	1
	to interfering peaks lowest reporting lim			the values repo	rted represent		
Metal	s	SW-846	6010B	mg/l		mg/l	
	Calcium		7440-70-	-2 69.6		0.0702	1
01754			7439-89-		J	0.0522	1
01757	Magnesium		7439-95-	-4 29.0		0.0172	1
07058	Manganese		7439-96-			0.00084	1
01762	Potassium		7440-09-	-7 4.22		0.239	1
01767	Sodium		7440-23-	-5 43.1		0.433	1
		SW-846	6010B mod	ified <sup>mg/l</sup>		mg/l	
02268	Ferric Iron		n.a.	N.D.		0.052	1
Wet C	hemistry	EPA 30	00.0	mg/l		mg/l	
00224	Chloride		16887-00	0-6 77.6		4.0	20
00228	Sulfate		14808-79	9-8 57.7		6.0	20
		EPA 35	51.2	mg/l		mg/l	
00217	Kjeldahl Nitrogen		n.a.	N.D.		0.50	1
		EPA 35	53.2	mg/l		mg/l	
00220	Nitrate Nitrogen		14797-55	5-8 1.5		0.040	1
00219			14797-65			0.015	1
		EPA 41	15 1	mg/l		mg/l	
01550	Total Carbon		n.a.	70.1		0.50	2
06090		bon	n.a.	68.2		0.50	1
00273	_		n.a.	1.8		0.50	1
		SM20 2	2320 B	mg/l as	CaCO3	mg/l as CaCO3	
00202	Alkalinity to pH 4.	5	n.a.	241		0.46	1
	Alkalinity to pH 8.		n.a.	N.D.		0.46	1



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Sample Description: MW-136D,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858877 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 17:00 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128 Discard: 02/21/2010 HOOVEN OH 45033

B136D

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Wet C	hemistry	SM20 3500 modified	Fe B	mg/l	mg/l	
08344	Ferrous Iron		n.a.	0.012 J	0.010	1
		SM20 4500	S2 D	mg/l	mg/l	
00230	Sulfide		18496-25-8	N.D.	0.054	1
		SM20 45001 modified	NH3 B/C	mg/l	mg/l	
00221	Ammonia Nitrogen		7664-41-7	N.D.	0.20	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis		Analyst	Dilution
No.					Date and Ti	me		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009	08:41	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009	08:41	Holly Berry	1
08097	CO2 by Headspace	SW-846 8000B	1	093440000A	12/11/2009	09:46	Dustin A	1
							Underkoffler	
07105	Volatile Headspace	SW-846 8015B	1	093450000A	12/15/2009	12:46	Dustin A	1
	Hydrocarbon	modified					Underkoffler	
01750	Calcium	SW-846 6010B	1	093481848002	12/19/2009	04:23	John W Yanzuk II	1
01754	Iron	SW-846 6010B	1	093481848002	12/19/2009	04:23	John W Yanzuk II	1
01757	Magnesium	SW-846 6010B	1	093481848002	12/19/2009	04:23	John W Yanzuk II	1
07058	Manganese	SW-846 6010B	1	093481848002	12/19/2009	04:23	John W Yanzuk II	1
01762	Potassium	SW-846 6010B	1	093481848002	12/19/2009	04:23	John W Yanzuk II	1
01767	Sodium	SW-846 6010B	1	093481848002	12/19/2009	04:23	John W Yanzuk II	1
02268	Ferric Iron	SW-846 6010B	1	093562268001	12/22/2009	09:19	Parker D Lindstrom	1
		modified						
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009	15:21	James L Mertz	1
	rec)							
00224	Chloride	EPA 300.0	1	09349196602B	12/16/2009	00:27	Ashley M Adams	20
00228	Sulfate	EPA 300.0	1	09349196602B	12/16/2009	00:27	Ashley M Adams	20
00217	Kjeldahl Nitrogen	EPA 351.2	1	09346108101A	12/13/2009	09:23	Joseph E McKenzie	1
00220	Nitrate Nitrogen	EPA 353.2	1	09350106101A	12/16/2009	19:32	Joseph E McKenzie	1
00219	Nitrite Nitrogen	EPA 353.2	1	09343105101A	12/09/2009	20:00	Joseph E McKenzie	1
01550	Total Carbon	EPA 415.1	2	09350049501A	12/16/2009	02:41	James S Mathiot	2
06090	Total Inorganic Carbon	EPA 415.1	1	09351049505A	12/17/2009	03:08	James S Mathiot	1
00273	Total Organic Carbon	EPA 415.1	1	09344049501A	12/10/2009	02:29	James S Mathiot	1
01460	Total Kjeldahl Nitrogen	EPA 351.2	1	09346108101A	12/12/2009	12:40	Carolyn M	1
	Digest						Mastropietro	
00202	Alkalinity to pH 4.5	SM20 2320 B	1	09349020201A	12/15/2009	13:43	Geraldine C Smith	1
00201	Alkalinity to pH 8.3	SM20 2320 B	1	09349020201A	12/15/2009	13:43	Geraldine C Smith	1



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Sample Description: MW-136D,120809 Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858877 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 17:00 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

B136D

CAT No.	Analysis Name	Method	Trial	# Batch#	Analysis Date and Ti	.me	Analyst	Dilution Factor
08344	Ferrous Iron	SM20 350 modified		09343834	101A 12/09/2009	22:00	Daniel S Smith	1
00230	Sulfide	SM20 450	0 S2 D 1	09344023	002A 12/10/2009	20:47	Geraldine C Smith	1
00221	Ammonia Nitroge	en SM20 450 modified		09344022	101A 12/10/2009	18:30	Luz M Groff	1



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Page 1 of 1

Sample Description: MW-136D,120809 Filtered Grab Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858878 LLI Group # 1174348

OH

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 17:00 by JH Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

F136D

CAT No.	Analysis Name	CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
Metal	s Dissolved	SW-846 6010B	mg/l	mg/l	
07035	Arsenic	7440-38-2	N.D.	0.0072	1
07055	Lead	7439-92-1	N.D.	0.0069	1
07058	Manganese	7439-96-5	0.427	0.00084	1

#### General Sample Comments

This sample was field filtered for metals.

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	d Trial# Batch# Analysis			Analyst	Dilution	
No.				Date and Time				Factor
07035	Arsenic	SW-846 6010B	1	093481848002	12/19/2009	04:26	John W Yanzuk II	1
07055	Lead	SW-846 6010B	1	093481848002	12/22/2009	08:01	Joanne M Gates	1
07058	Manganese	SW-846 6010B	1	093481848002	12/19/2009	04:26	John W Yanzuk II	1
01848	WW SW846 ICP Digest (tot	SW-846 3005A	1	093481848002	12/14/2009	15:21	James L Mertz	1
	rec)							



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Page 1 of 1

Sample Description: Trip Blank NA Water

Barrier Monitoring Network 4Q-2009

LLI Sample # WW 5858879 LLI Group # 1174348

ОН

Project Name: Barrier Monitoring Network 4Q-2009

Collected: 12/08/2009 17:45 Account Number: 11494

Submitted: 12/09/2009 09:25 Chevron

Reported: 12/22/2009 at 09:24 5000 State Route 128

Discard: 02/21/2010 HOOVEN OH 45033

BAR-T

CAT No.	Analysis Name		CAS Number	As Received Result	As Received Method Detection Limit	Dilution Factor
GC/MS	Volatiles	SW-846	8260B	ug/l	ug/l	
06291	Benzene		71-43-2	N.D.	0.5	1
06291	Chlorobenzene		108-90-7	N.D.	0.8	1
06291	Ethylbenzene		100-41-4	N.D.	0.8	1
06291	Toluene		108-88-3	N.D.	0.7	1
06291	Xylene (Total)		1330-20-7	N.D.	0.8	1

#### General Sample Comments

All QC is compliant unless otherwise noted. Please refer to the Quality Control Summary for overall QC performance data and associated samples.

CAT	Analysis Name	Method	Trial#	Batch#	Analysis	Analyst	Dilution
No.					Date and Time		Factor
01163	GC/MS VOA Water Prep	SW-846 5030B	1	Y093441AA	12/10/2009 09:02	Holly Berry	1
06291	TCL by 8260 (water)	SW-846 8260B	1	Y093441AA	12/10/2009 09:02	Holly Berry	1



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#### Quality Control Summary

Client Name: Chevron Group Number: 1174348

Reported: 12/22/09 at 09:24 AM

Matrix QC may not be reported if site-specific QC samples were not submitted. In these situations, to demonstrate precision and accuracy at a batch level, a LCS/LCSD was performed, unless otherwise specified in the method

#### Laboratory Compliance Quality Control

Analysis Name	Blank <u>Result</u>	Blank MDL	Report <u>Units</u>	LCS %REC	LCSD %REC	LCS/LCSD <u>Limits</u>	RPD	RPD Max
Batch number: Y093441AA	Sample numb							
	·				,5858875,5	858877,58588	79	
Benzene	N.D.	0.5	ug/l	102		79-120		
Chlorobenzene Ethylbenzene	N.D. N.D.	0.8 0.8	ug/l	104 100		80-120 79-120		
Toluene	N.D.	0.8	ug/l ug/l	104		79-120		
Xylene (Total)	N.D.	0.7	ug/1	101		80-120		
•			J.	101		00 120		
Batch number: 093440000A	Sample numb							
CO2 by Headspace	N.D.	4,000.	ug/l	86		67-124		
Batch number: 093450000A	Sample numb		8877					
Methane	N.D.	10.	ug/l	88		80-120		
Batch number: 093481848002	Sample numb	er(s): 585	8866,5858	868,58588	70,5858872	,5858874,585	8876-58	358878
Arsenic	N.D.	0.0072	mg/1	101		89-115		
Calcium	N.D.	0.0702	mg/1	102		90-112		
Iron	N.D.	0.0522	mg/1	102		90-112		
Lead	N.D.	0.0069	mg/l	102		80-120		
Magnesium	N.D.	0.0172	mg/1	100		89-110		
Manganese	N.D.	0.00084	mg/l	101		90-110		
Potassium	N.D.	0.239	mg/1	98		85-115		
Sodium	N.D.	0.433	mg/l	107		87-114		
Batch number: 09343105101A	Sample numb	er(s): 585	8877					
Nitrite Nitrogen	N.D.	0.015	mg/l	99		90-110		
Batch number: 09344049501A	Sample numb	er(s): 585	8877					
Total Organic Carbon	N.D.	0.50	mg/l	100		91-113		
Batch number: 09346108101A	Sample numb	er(s): 585	8877					
Kjeldahl Nitrogen	N.D.	0.50	mg/1	101		90-110		
Batch number: 09349196602B	Sample numb	er(s): 585	8877					
Chloride	N.D.	0.20	mg/l	99		90-110		
Sulfate	N.D.	0.30	mg/l	100		89-110		
Batch number: 09350049501A	Sample numb	er(s): 585	8877					
Total Carbon	N.D.	0.50	mg/1	103		80-120		
Batch number: 09350106101A	Sample numb	er(s): 585	8877					
Nitrate Nitrogen	N.D.	0.040	mg/l	102		90-110		
Batch number: 09343834401A	Sample numb	er(g). 585	8877					
Ferrous Iron	N.D.	0.010	mg/l	100		92-105		
Batch number: 09344022101A	Sample numb	er(a). E0E						
Daten number: 05344022101A	pampre mumb	CT (9): 303	00011					

#### \*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

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#### Quality Control Summary

Client Name: Chevron Group Number: 1174348

Reported: 12/22/09 at 09:24 AM

#### Laboratory Compliance Quality Control

Analysis Name Ammonia Nitrogen	Result N.D.	MDL 0.20	Mg/l	<b>%REC</b> 93	%REC 92	LCS/LCSD Limits 85-105	RPD 1	RPD Max
Batch number: 09344023002A Sulfide	Sample number N.D.	er(s): 589 0.054	58877 mg/l	98		90-110		
Batch number: 09349020201A Alkalinity to pH 4.5	Sample number N.D.	er(s): 585 0.46	58877 mg/l as CaCO3	100		98-103		

#### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name	MS %REC	MSD %REC	MS/MSD <u>Limits</u>	RPD	RPD MAX	BKG Conc	DUP Conc	DUP RPD	Dup RPD Max
Batch number: Y093441AA		number(s)		050051	E05005	2 5050055		NOGO IBIODIA	D050000
Benzene	109	108	80-126	858871, 1	30	3,58588/5	5,5858877,5858	38/9 UNSPK	: P858932
Chlorobenzene	110	108	87-124	2	30				
Ethylbenzene	104	104	71-134	0	30				
Toluene	110	111	80-125	1	30				
Xylene (Total)	105	104	79-125	1	30				
Batch number: 093440000A	Sample		: 5858877	UNSPK:		78			
CO2 by Headspace	75	75	15-145	0	20				
Batch number: 093450000A	Sample	number(s)	: 5858877	UNSPK:	58588	77			
Methane	68	82	35-157	18	20				
Batch number: 093481848002		number(s)		,585886	8,5858	870,58588	372,5858874,58	358876-5858	3878 UNSPK:
Arsenic	102	103	75-125	1	20	0.0257	0.0278	8 (1)	20
Calcium	167 (2)	54 (2)	75-125	3	20	162	166	3	20
Iron	148 (2)	84 (2)	75-125	3	20	22.1	22.8	3	20
Lead	94	114	75-125	19	20	N.D.	N.D.	0 (1)	20
Magnesium	137 (2)	79 (2)	75-125	2	20	45.8	47.0	3	20
Manganese	99 (2)	86 (2)	75-125	2	20	3.05	3.11	2	20
Potassium	105	101	75-125	2	20	3.46	3.64	5	20
Sodium	37 (2)	30 (2)	75-125	0	20	214	204	5	20
Batch number: 09343105101A	Sample	number(s)	: 5858877	UNSPK:	P8586	91 BKG: I	858691		
Nitrite Nitrogen	100		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09344049501A	Sample	number(s)	: 5858877	UNSPK:	P8588	39 BKG: I	858839		
Total Organic Carbon	102		64-141			13.1	13.2	1	4
Batch number: 09346108101A	Sample	number(s)	: 5858877	UNSPK:	P8598	82 BKG: I	859882		
Kjeldahl Nitrogen	96		90-110			N.D.	N.D.	0 (1)	20
Batch number: 09349196602B	Sample	number(s)	: 5858877	UNSPK:	58588	77 BKG: 5	858877		
Chloride	104		90-110			77.6	78.3	1	20

#### \*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

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#### Quality Control Summary

Client Name: Chevron Group Number: 1174348

Reported: 12/22/09 at 09:24 AM

#### Sample Matrix Quality Control

Unspiked (UNSPK) = the sample used in conjunction with the matrix spike Background (BKG) = the sample used in conjunction with the duplicate

Analysis Name Sulfate	MS <u>%REC</u> 105	MSD <u>%REC</u>	MS/MSD Limits 90-110	RPD	RPD <u>MAX</u>	EKG Conc 57.7	Conc 57.5	DUP <u>RPD</u> 0 (1)	Max 20
Batch number: 09350049501A Total Carbon	Sample n 87	umber(s)	: 5858877 72-132	UNSPK:	P85869	91 BKG: P858 24.1	8691 25.6	6	20
Batch number: 09350106101A Nitrate Nitrogen	Sample n 30*	number(s)	: 5858877 90-110	UNSPK:	P85953	33 BKG: P859 3.0	9533 3.3	10*	2
Batch number: 09343834401A Ferrous Iron	Sample n 99	umber(s) 99	: 5858877 66-130	UNSPK:	P85890	07 BKG: P858 6.4	3907 6.5	2 (1)	10
Batch number: 09344022101A Ammonia Nitrogen	Sample n	number(s)	: 5858877	BKG:	P858920	2.8	2.6	6* (1)	2
Batch number: 09344023002A Sulfide	Sample no	umber(s) 89	: 5858877 69-133	UNSPK:	P85494 18	17 BKG: P854 N.D.	947 N.D.	0 (1)	7
Batch number: 09349020201A Alkalinity to pH 4.5 Alkalinity to pH 8.3	Sample n 99	umber(s) 98	: 5858877 64-130	UNSPK:	585887 2	77 BKG: 5858 241 N.D.	8877 242 N.D.	1 0 (1)	4 4

#### Surrogate Quality Control

Surrogate recoveries which are outside of the QC window are confirmed unless attributed to dilution or otherwise noted on the Analysis Report.

Analysis Name: TCL by 8260 (water)

Batch number: Y093441AA

	Dibromofluoromethane	1,2-Dichloroethane-d4	Toluene-d8	4-Bromofluorobenzen
5858865	102	94	93	88
5858867	103	96	94	87
5858869	104	97	93	86
5858871	103	95	93	86
5858873	103	97	93	86
5858875	103	96	93	86
5858877	104	98	93	86
5858879	104	98	93	86
Blank	100	94	93	89
LCS	98	94	99	99
MS	97	95	99	100
MSD	96	93	99	100
Limits:	80-116	77-113	80-113	78-113

Analysis Name: Volatile Headspace Hydrocarbon Batch number: 093450000A  $\,$ 

Propene

5858877 68

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

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### Quality Control Summary

Client Name: Chevron Group Number: 1174348

Reported: 12/22/09 at 09:24 AM

Surrogate Quality Control

Blank 102 LCS 98 MS 61 MSD 78

Limits: 42-131

\*- Outside of specification

- (1) The result for one or both determinations was less than five times the LOQ.
- (2) The unspiked result was more than four times the spike added.

### Analysis Request/ Environmental Services Chain of Custody



Acct. # 11494

For Lancaster Laboratories use only

Group# 1174348 Sample #5858865-79

COC # 211753

	<b>Laboratories</b>	Р	lease print. Ins	tructio	ns on	reverse	side co	respon	d with	circle	d numb	ers.		-ter	uρ	= 2.9 - 3 For Lab Use Only	3,5°C	/
(1	Client: CHEULON)	Acat #	11494	_		Matrix	4		(5	*****	n <b>alys</b> e servat	~~~	juest	∌d		FSC: SCR#:		<del></del>
	Project Name/#: Barie Manifer and Return Project Manager: Dong Land  Sampler: The Hell  Name of state where samples were collected:	P.O.#: _ Quote #			20	Polable Check if	of Containers	6360	12 AL 196		e Dis		J	,		Preservation Coo H=HCI T=Th N=HNO <sub>3</sub> B=Na S=H <sub>2</sub> SO <sub>4</sub> O=Ot	iosulfat <del>e</del> iOH	re of samples of (frequested)
	Semple Identification	Date Collected	Time Collected	Grab	Сетро	Water	7.04a1#	lbc's	(Josephe)	MOA	Mangaire					Remarks		Temperess
	MU-135D, 120869	12-08-69	1037	Х		X	4	Х	X							See Attachall	AnalyteLis	<u>/-</u>
	MU-135I, 120809	12-08-69	11:50	X		X	4	X	X			<b>_</b>	$\mathcal{X}$		<u> </u>	1		1
	MW-1355, 120809	1208-05	12:40	X	_	1	ધ		X							Dssolve 1724/	Are Field F	Hered
i	BMW-11), 120809	1208-09		x	$\perp$	X	4	_	X		4			_	ļ			
	BMG-11,120809	1208-09	1415	x		X	4	X	مز			Д				QC Summar	y DAR.	Kage
	BMW-15, 120809	12-08-09	1500	x		1	4	12	1			$\perp$					<i></i>	
	MU-136D,120809	1208-08	17ac	X		1	20	X	1	X.	X		D	+-	<u> </u>			
	TipBlank.	12-08-09	1745	X		X	2	X				<b>-</b>	$\downarrow$		<u>.</u>			
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7	Turnaround Time Requested (TAT) (please of (Rush TAT is subject to Lancaster Laboratories appropriate (Rush TAT)			F	Relinq	uishod	by:		•		Date	Tir مراضً	ne R	eceive	ed by:		Date	Time (9
	Date results are needed:						49				12/8/0	- 1 <b>-</b>	_	Receive			Deta	Time
	Rush results requested by (please circle): P		É-mail	4	Kelind	uished	by:				Date	'   '   '	THE P	eceive	eu by:		Date	Time
	Phone #: <u>5/3-353-/323</u> Fax #: <u>5/</u> E-mail address: <u>AM: Kall@ triba</u> ) - Co.		<u>.</u>	-	Relina	uished	hv:				Date	Ti	ne F	eceive	d by:		Date	Time
8			G Complete?	_	10	0.000	~3.								,.			
$\exists$	Type I (validation/NJ Reg) TX TRRP-13	Y	es No		Relinq	uished	by:		$\overline{}$		Date	Tit	me F	teceive	d by:		Date	Time
	Type II (Tier II)  Type III (Reduced NJ)  MA MCP CT  Site-specific QC (	RCP	Yes No	$\dashv$						\								$\setminus \mid$
	Type IV (CLP SOW) (If year, indicate OC semple and sul	bmit triplicate volume.)	•	F	Relino	uished	by:				Date	Ti	me F	Receive	-		Date	
	Type VI (Raw Data Only) Internal COC Re-	quired? Yes / No	D				•							B	N	<b></b>	1219/101	525

#### Barrier Monitoring Network Sampling 2Q 2009 Analytical Requests for Groundwater Chevron Cincinnati Facility, Hooven, Ohio

#### **VOLATILE ORGANICS**

Benzene

Chlorobenzene

Ethylbenzene

Toluene

Xylenes (total)

#### **DISSOLVED METALS – FIELD FILTERED**

Arsenic

Lead

Manganese

#### **MNA PARAMETERS**

Alkalinity to pH 4.5

Alkalinity to pH 8.3

Ammonia Nitrogen

Calcium

Carbon Dioxide

Chloride

Iron (II) and Iron (III)

Magnesium

Total Manganese

Methane

Nitrate Nitrogen

Nitrite Nitrogen

Potassium

Sodium

Sulfate

Daitan

Sulfide

Total Kjeldahl Nitrogen

Total Organic Carbon

Total Inorganic Carbon



# Environmental Sample Administration Receipt Documentation Log

			vecelhi pc	Cumentation	ii Log					
Client/	Project: <u>C</u>	yextov—		Shippin	g Contain	er Sealed: (Ýí	NO			
Date of Receipt: 12/9/09				Custody Seal Present *: YES NO						
Time o	of Receipt:	925								
Source	e Code: <u>5</u>	<u>[O-]</u>			seal was inta liscrepancy so	act unless otherwis ection	e noted in the			
Unpaci	ker Emp. No.	: 2316		Package	<b>e:</b>	Shille	d Not Chilled			
			Temperature of	Shipping Contai	iners					
Cooler #	Thermometer ID	Temperature (°C)	Temp Bottle (TB) or Surface Temp (ST)	Wet Ice (WI) or Dry Ice (DI) or Ice Packs (IP)	Ice Present? Y/N	Loose (L) Bagged Ice (B) or NA	Comments			
1	0429865	3,200	TB	CUT	4	7				
2		2.90		]		1				
3	<b>V</b>	3,500	V	<b>√</b>	V	<b>V</b>				
4										
5	·									
6										
Number	Number of Trip Blanks received <u>NOT</u> listed on chain of custody.									
Paperwork Discrepancy/Unpacking Problems:										
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_		Sa	mple Administration	n Internal Chain	of Custody					
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Entry

### Lancaster Laboratories Explanation of Symbols and Abbreviations

The following defines common symbols and abbreviations used in reporting technical data:

N.D.	none detected	BMQL	Below Minimum Quantitation Level
TNTC	Too Numerous To Count	MPN	Most Probable Number
IU	International Units	CP Units	cobalt-chloroplatinate units
umhos/cm	micromhos/cm	NTU	nephelometric turbidity units
С	degrees Celsius	F	degrees Fahrenheit
Cal	(diet) calories	lb.	pound(s)
meq	milliequivalents	kg	kilogram(s)
g	gram(s)	mg	milligram(s)
ug	microgram(s)	Ī	liter(s)
ml	milliliter(s)	ul	microliter(s)
m3	cubic meter(s)	fib >5 um/ml	fibers greater than 5 microns in length per ml

- < less than The number following the sign is the <u>limit of quantitation</u>, the smallest amount of analyte which can be reliably determined using this specific test.
- > greater than
- ppm parts per million One ppm is equivalent to one milligram per kilogram (mg/kg), or one gram per million grams. For aqueous liquids, ppm is usually taken to be equivalent to milligrams per liter (mg/l), because one liter of water has a weight very close to a kilogram. For gases or vapors, one ppm is equivalent to one microliter of gas per liter of gas.

**Inorganic Qualifiers** 

- ppb parts per billion
- **Dry weight**Besults printed under this heading have been adjusted for moisture content. This increases the analyte weight concentration to approximate the value present in a similar sample without moisture.

U.S. EPA data qualifiers:

#### **Organic Qualifiers**

#### Α TIC is a possible aldol-condensation product Value is <CRDL, but ≥IDL В Ε Analyte was also detected in the blank Estimated due to interference С Pesticide result confirmed by GC/MS Duplicate injection precision not met M D Compound quatitated on a diluted sample Ν Spike amount not within control limits Ε Concentration exceeds the calibration range of S Method of standard additions (MSA) used the instrument for calculation J Estimated value U Compound was not detected Ν Presumptive evidence of a compound (TICs only) W Post digestion spike out of control limits Ρ Concentration difference between primary and Duplicate analysis not within control limits confirmation columns >25% Correlation coefficient for MSA < 0.995 U Compound was not detected X,Y,ZDefined in case narrative

Analytical test results for methods listed on the laboratories' accreditation scope meet all requirements of NELAC unless otherwise noted under the individual analysis.

Tests results relate only to the sample tested. Clients should be aware that a critical step in a chemical or microbiological analysis is the collection of the sample. Unless the sample analyzed is truly representative of the bulk of material involved, the test results will be meaningless. If you have questions regarding the proper techniques of collecting samples, please contact us. We cannot be held responsible for sample integrity, however, unless sampling has been performed by a member of our staff. This report shall not be reproduced except in full, without the written approval of the laboratory.

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